

THREE NEW SOUTH AMERICAN FLEAS.

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(With 5 text-figures.)

Ctenidiosomus gen. nov.

♀. Related to *Stenoponia* J. & R. 1911 and *Neotyphloceras* Roths. 1914; the genal comb absent, the genal margin produced downwards into a triangular process, the labial palpus consisting of five segments and reaching to near the apex of the forecoxa, the abdominal tergites II to VI with comb of long spines, etc.

Head almost evenly rounded (text-fig. 1). Frons without tubercle; with two rows of bristles; genal process broad, apically rounded, its ventral margin, about vertically below eye, incurved, in front of this bay the marginal area enlarged downward into a triangular lobe which is about as long as broad, the tip of this lobe about one-fourth nearer to the apex of the genal process than to the oral angle of frons. Occiput without the internal incrassation of *Stenoponia*, with three rows of bristles. Eye not fully developed, pale, its antero-ventral area semitransparent, and with the rim very thin. Antennal groove almost closed; segment II of antenna with the bristles short; club long, strongly segmented. Proportions of maxillary palpus: 22, 29, 23, 29. Proboscis reaching to $\frac{9}{10}$ of forecoxa.

Pronotum long, with two rows of bristles and additional dorsal bristles, and comb of spines. Mesonotum one-fifth longer than metanotum, without subapical internal setiform spines, and like the metanotum studded with numerous bristles. No apical spines on metanotum.

On abdominal tergites 4 or 5 rows of bristles, the anterior row or rows irregular; on II to VI a comb of sharp spines (text-fig. 2) about as long as, but somewhat narrower than, the last but one spine of the pronotal comb; below the combs the segments widened; two long antepygial bristles on a double cone. Pygidium strongly convex. Stylet long, cylindrical.

Outer subapical dorsal bristle of femora short and stumpy, stout; outer dorsal bristles of tibiae also stout, very much shorter than the inner ones. Segment V of all tarsi with five pairs of lateral plantar bristles, ventrally at and near apex 7 or 8 short bristles arranged in a curved row, the two middle bristles thin.

One spermatheca, of which the head is ovate.

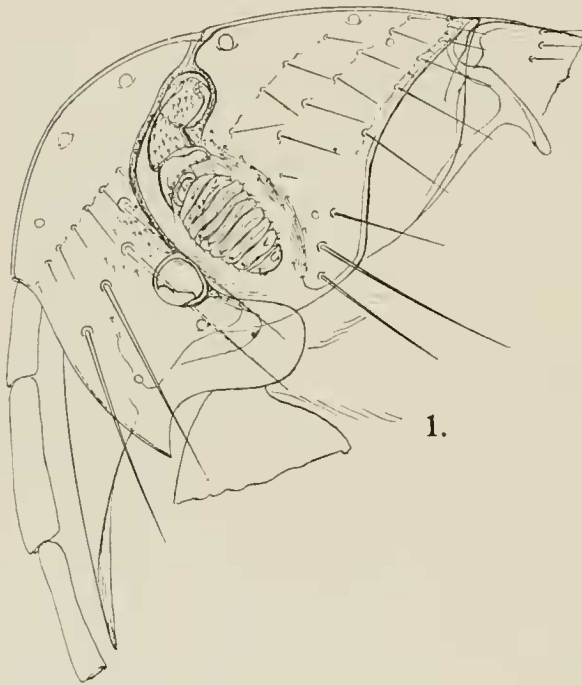
Genotype: spec. nov. here described.

1. **Ctenidiosomus spillmanni** spec. nov. (text-figs. 1, 2).

A large species. Only the ♀ known.

Head.—In front of eye four large bristles, of which the uppermost placed near the antennal groove and much farther forward than the others; an anterior row of 6 or 7 small bristles; between eye and upper long bristles numerous minute bristles. On occiput the first row contains on each side 4 bristles, the second 5 or 6 and the subapical row 7 or 8, the bristles of the anterior two rows rather thin. Minute bristles on segment I of antenna numerous; club not quite twice as long as broad. Maxilla a little longer than hindtarsal segment II.

Thorax.—On pronotum a comb of twenty-two pointed spines, not quite touching each other at base, the subdorsal spines two-thirds the length of the pronotum; in front of the posterior row of 17 long bristles another row of 17, and before this about 8 additional dorsal and subdorsal bristles. Posterior row on mesonotum with 17 bristles, on metanotum with 18, between this row and basal margin numerous bristles in more than three rows, but on metanotum



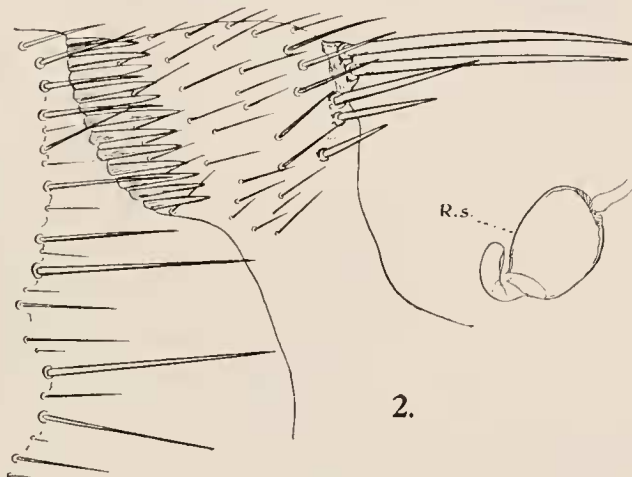
an anterior lateral area without bristles; on mesopleura 8 or 9 bristles; mesosternum projecting downwards as a rounded nose, above which there is a small bristle; metepisternum with one or two bristles; on metasternum five bristles near its posterior margin, two or three of them evidently large (broken away); on metepimerum two vertical rows (6, 6, and 5, 7, and a few minute additional bristles).

Abdomen.—On tergites five or six rows of bristles, anterior rows irregular and not complete, numbers (two sides together) in posterior row on tergite I 14, II

25, III 32, VI 25, VII 12, these bristles stout; combs dorsally slightly interrupted, spines sharp and long, the bristles of the posterior row not reaching to the apex of the spines, numbers (two sides together) on II 27, III 33, IV 31, V 30, VI 27, the spines slightly different in length. On the sternites the posterior row very oblique and its bristles strong, at least the more ventral ones; basal sternite ventrally divided from base to middle, on upper portion of its side 7 or 8 small bristles, on ventral portion (two sides together) 40; numbers on sternites III to VI 38 to 50, 14 (only the large bristles of the posterior row being included in the 14).

Legs.—On inner surface of hindcoxa near anterior margin an irregular row of 7 or 8 small bristles. On outer side of mid- and hindfemur a ventral row of bristles, the last bristle rather long, the next and a subbasal one about the size of bristles at the anterior (= ventral) margin of the femora, the others quite small; hindtibia with eight dorsal notches inclusive of apical one, in third, fourth, fifth, and sixth notches two stout bristles and on the inner side a slender one, in seventh notch three short and stout and one slender, near the notches, on outside, a row of eight bristles; on ventral side three notches with three stout bristles each, a fourth notch with small ones, along ventral margin, except basal

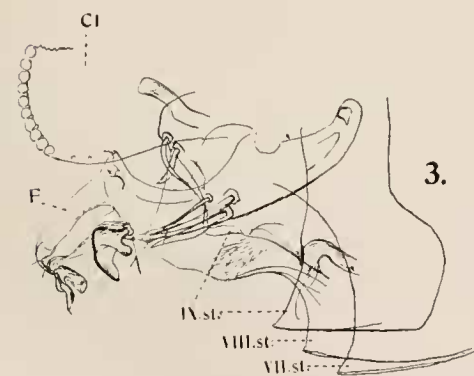
fourth, short bristles, also a row on outside near this margin; the longest apical bristle of hindtibia (which is ventral) reaching to three-fifths of hindtarsal segment I. No bristle of hindtarsus extending to near apex of the segment following; segment IV long in hindtarsus, three times as long as apically broad, in fore- and mid-tarsus less than one-half longer than broad; sole of V with numerous small hairs in fore- and midtarsus, and with few such hairs in hind-tarsus. Measurements: midtarsus 44, 24, 14, 11, 22, hind-tarsus 88, 60, 42, 23, 29.



Modified Segments.—Sternite VII gradually decreasing in width, its narrow apex truncate, slightly emarginate, the angles sharp, but not produced; between posterior row and base on the two sides together more than 100 bristles. The two large antepygidial bristles about equal. Stigma of segment VIII large, recalling the rose of a watering-can, above it about 15 bristles on each side, below it 4 or 5, on the widened area 30 odd bristles; sternite VIII without bristles. Pygidium on each side with 23 grooves, the sinus

formed by it and the anal segment with strongly chitinated sides; anal tergite with median hump bearing bristles. Stylet nearly six times as long as broad, with an apical bristle and two very minute ones, the apical bristle shorter than the longest dorsal bristle of the anal tergite. Spermatheca somewhat distorted in mounting, its head irregularly ovate, tail short and narrow (text-fig. 2).

Length 4.5 mm., hindfemur 0.75 mm.



Hab. Ecuador: Pichincha, from *Neomys* spec., 23.xii.1930 (Professor F. Spillmann).

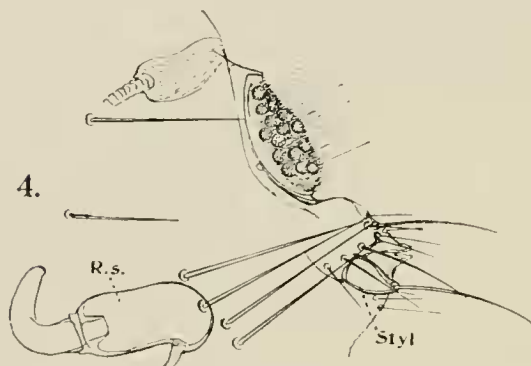
A most interesting discovery, for which I am greatly indebted to Dr. F. Spillmann.

2. *Craneopsylla chiris* spec. nov. (text-figs. 3, 4)

♂♀. Close to *C. wolffsohni* Roths. 1909, from Chile; pronotal comb with 22 spines.

♂. Ventral portion of IX. st. (text-fig. 3) slightly incurved, the ventral angle 22

acute; at apex two bristles and further down the ventral margin a bunch of three others, three of these five bristles appearing to be flattened, sword-like (the outline of the segment is much obscured in the only specimen in the collection). Clasper with a marginal row of close-set long bristles as in *C. wolffsohni*; exopodite dorsally humped at two-thirds, at ventral margin two short, broad, modified spiniforms, one at apex, the other opposite the dorsal hump, both bilobate, the proximal one recalling a mitten or a boxer's glove.



♀. Two antepygidial bristles instead of one. Stylet short and proximally broad (styl. text-fig. 4), strongly narrowing apically. Stigma of VIII. t. widest towards trachea, the cavity much narrower at margin of segment than in *C. wolffsohni*; below this stigma two bristles and farther down three or four in a row (besides numerous bristles on the widened ventral area). Head

of spermatheca (R.s.) straighter and somewhat longer than in *C. wolffsohni*, the end bearing the orifice less curved downwards.

Hab. Argentina: Rio Negro, Pileañen, 1,000 m., April 1920, on *Phyllotis xanthopygus* (H. E. Box), one pair.

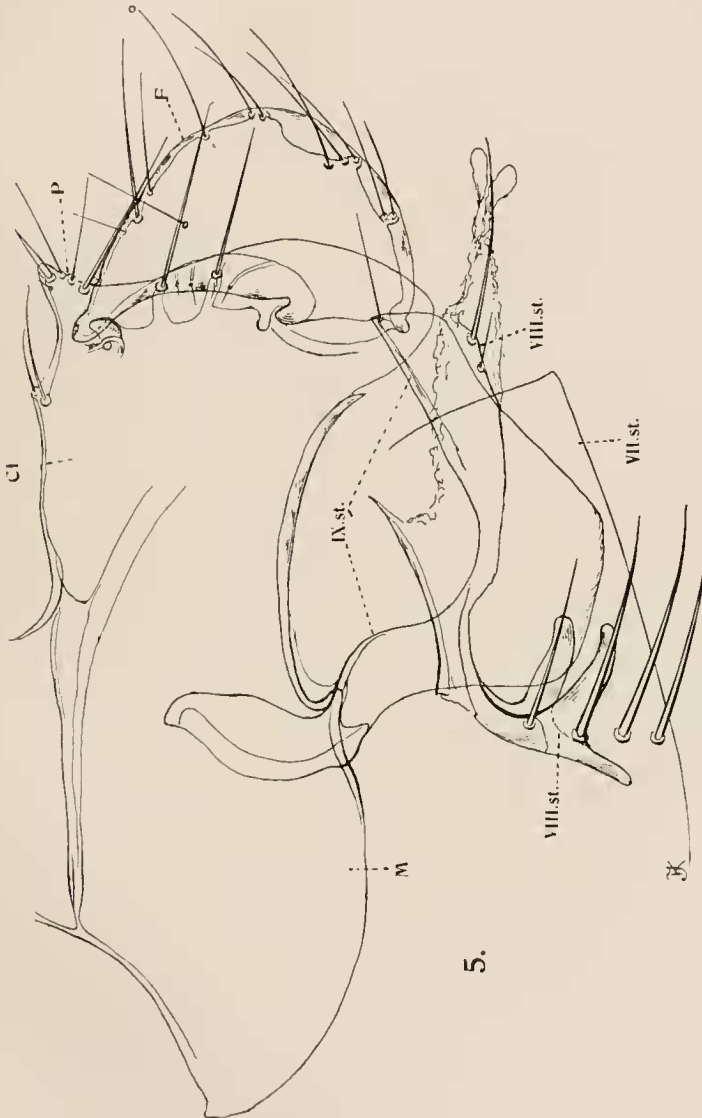
The ♀ with two antepygidial bristles recorded in NOV. ZOOL. xxi. p. 260. no. 32 (1914) from "Ost-Feuerland," probably belongs to this species.

3. *Craneopsylla tolmera* spec. nov. (text-fig. 5).

One might be in doubt as to whether the various forms of *Craniopsylla*, which fall into three natural groups, represent either three genera each with several species, or three species each with several subspecies. A large series of specimens of *Craniopsylla* collected in Tucuman and lately acquired for the N. C. Rothschild collection contains both *C. wolffhuegeli* Roths. 1909 and its very near ally *C. minerva* Roths. 1903. If these specimens are all from the same district as stated by the collector, *C. wolffhuegeli* and *C. minerva* must be considered as independent, i.e. specific, units, and consequently also the other forms described should be treated as species. In the case of the Ecuadorian example hereafter described there is a difficulty. The specimen belongs to the group containing *C. mars* Roths. 1898, *C. ares* Roths. 1908 and *C. inca* Roths. 1914, all three being known from one ♀ each, whereas the Ecuadorian specimen is a ♂. It may be the ♂ of any one of the three, or it may represent a distinct species.

♂. *C. tolmera* differs from *C. inca* in the comb of the pronotum containing 30 spines instead of 25, in the anterior (third) row of the pronotum consisting of 12 bristles instead of 3, and the abdominal tergite VI bearing 8 and VII 6 bristles in front of the postmedian row, i.e. fewer than in *C. inca*, in which the numbers are 16 and 11 respectively. The hindfemur has in the posterior half of the outer surface 4 lateral and 3 ventral bristles as in *C. inca*. Hindcoxa much

broader than in *C. inca*. Clasper (Cl) inclusive of its manubrium (M) more than three times as long as it is broad in middle (text-fig. 5). Manubrium very short and broad, triangular, its ventral margin excurved, its upper margin slightly incurved, this margin shorter than the manubrium is broad near its



base. Rest of clasper irregularly oblong with the apical ventral angle round and extending downward; upper margin nearly straight, towards apex with a small hump which bears two bristles; upper apical angle produced as a short cone, at the apex of which there is a rather stout and short spiniform, below this three bristles, two thin and one stouter and longer, farther down the apical margin of the clasper two more bristles about the size of the one above them;

ventral margin incrassate, incurved, the incrassation curved as a sabre, ending distally in a point, which appears to project. Exopodite F not unlike that of certain bat-fleas, strongly arrowing to apex, the posterior margin almost forming a semicircle and the anterior margin slightly incurved and short, being about one-third the posterior margin; along the latter eleven bristles, most of them arranged in pairs, the uppermost short and very thin, the next the largest; on outer surface one thin, but fairly long bristle; the exopodite rests with its tip against a projection from the inner surface of the clasper; this projection strongly chitinated and resembling the end-segment of a thumb to some extent. The apex of the vertical arm of IX. st. irregularly elongate-ovate, the arm curved in middle; the ventral area broad, dorsal and ventral margins almost parallel, the portion between ventral and vertical arms about twice as wide as the ventral arm is broad; apex of ventral arm obliquely truncate, upper angle sharp, bearing a small bristle, lower angle completely rounded off. VIII. st. with a proximal portion forming a sort of tripod, which is dorsally drawn out distad into a long lobe which ends with two membranous appendages (one each side) with rounded tips; proximally to these appendages a long bristle and a small one; proximal two-fifths of upper margin incrassate in a similar way as the ventral margin of the clasper, but the free point of this sclerite turned upwards.

Length 3 mm.; hindfemur 0.43 mm.

Hab. Ecuador: Pichincha, from *Neomys* spec., 23.xii.1930 (Professor F. Spillmann), 1 ♂.
